Priority-based
LPWA IoT Network Technology

Features

- Secure End-Device Registration
- (Non)Periodic Sensor Transmission
- User Data Encryption
- Frequency Hopping
- Simultaneous Tx over Multi Channel Frequency
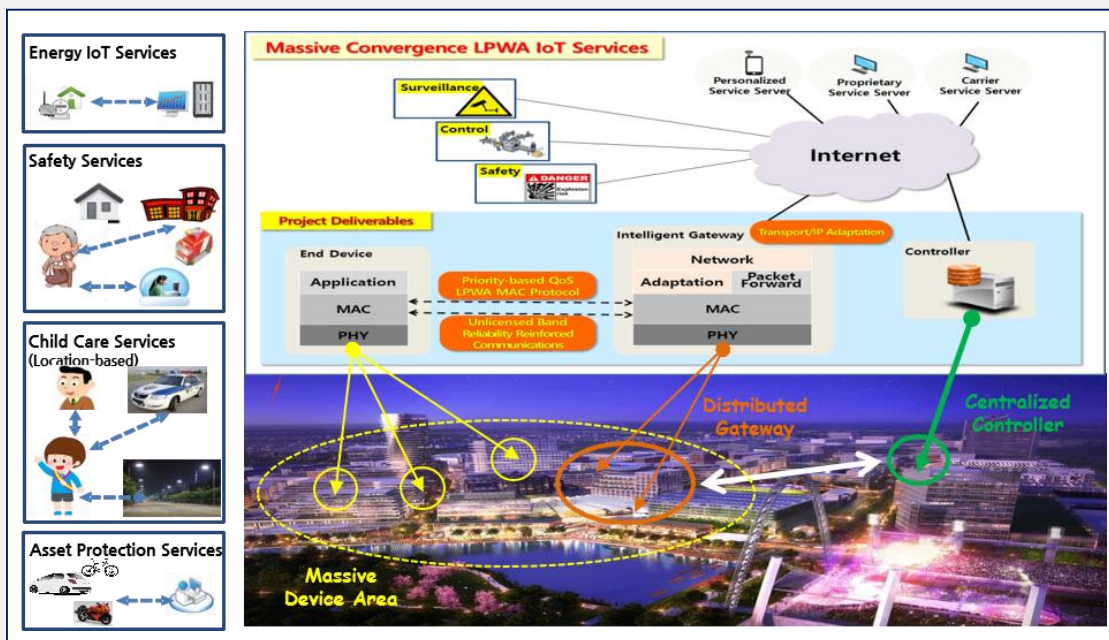- Prioritized Channel Access
- Network Control Message
- Low-power Technology

Technology Summary

- Large-scale populated services with reliable and secure services
  - Public Services: Critical facility monitoring, Public Infrastructure monitoring, Child Protective Services
  - Industrial Services: Process monitoring, Smart Building

※ LPWA: Low-Power Wide Area; IoT: Internet of Things

Potential Applications

- Surveillance/Monitoring
  : Intrusion/Burglary Surveillance, Hazardous materials monitoring
- Living Services
  : Asset tracking, Social Safety Nets, e-Health/e-Welfare

Development (TRL : 7)

Key Components

1. Priority-provisioning Large-scale LPWA System

   : Unlicensed-band Device / Access Point(AP) / Network Controller

Priority-provisioning LPWA Controller   **Application Server**

Multi-channel AP
- Low-power RF Boards (1~8)
- Prioritized CSMA-CA
- Resource Reservation Control
- Channel Hoping
- Beacon Broadcasting

Service-class-based LPWA Device

Core Patent

- METHOD FOR CONTROLLING ACCESS BASED ON SERVICE LEVEL AND APPARATUS FOR THE SAME, KR 2016-0167445

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2. Low-cost Small-scale LPWA System

   : Controller-Integrated Access Point(AP)

Controller-Integrated AP
- Low-power MCU
- Low-power RF Chip
- 10/100 Ethernet
- Small size 9 * 5 (cm)

Application Server
- AP Setup
- Ethernet Connection
- Network Configuration
- Device Connection Control

Licensing Contact

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